Direct and Indirect Policy Measures Affecting the Land Market

by

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In the introductory outline for the workshop, comment was made that the land market in Spain could be defined as rather stiff with low mobility rates and it was suggested that this acted to slow the development of the agricultural sector. In this paper I will consider how U.S. policies have influenced the development of the agricultural sector and land values in a somewhat more flexible and open land market. No empirical estimates of the impacts of specific U. S. policies or programs were attempted for this paper because such estimates are quickly outdated. Also, they would have little value in the context of this workshop. Methodological approaches to measurement of the impact of commodity programs are presented in previous research by Reinsel and Krenz.

Others at this workshop have addressed the specifics of market institutions, taxes and legal characteristics of markets designed by governments to enhance or limit the use of property directly. I will consider policies and programs of government that create and remove land value because they alter the expected income from land by shifting the supply of and demand for land services. Such programs operate within a given set of property rights and depend on a specific set of assumptions in the context of economic theory.

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Property Rights

In the United States we tend to believe that a man's home is his castle and every man has the right to use his property for his own good. He, therefore, receives the returns from ownership and exploitation of real estate and suffers the burden of any loss, unless that loss is transferred as an externality to those who have no rights in the property. For example, the cost of soil erosion is transferred to the users of streams and harbors and to future generations of land owners. In the United States, the legal system specifies that the right to hold property is given by the state and the state through its powers of taxation and its police powers can limit the bundle of rights of land owners to those activities and rights which society is willing to tolerate.

Because the rights to use and exploit property are scarce they have a value to those who wish to hold those rights. Huge sums of money have been exchanged for the right to use a particular location for commercial or industrial purposes. Property containing minerals or oil becomes the wealth of individuals, companies and nations. Because the rights to use and exploit resources are seldom traded in markets among nations, most of the wars and battles fought prior to the American Revolution were fought over the right to use the resources of a particular region. Since the American Revolution, many wars have been fought over the political ideology that would be imposed by a state and the differences in political ideology are fundamentally tied to the differences in the distribution of property rights.

Land value

Land has value because it carries with it the right to an expected rent. Land provides a place for economic activity and it provides space in which to exist. Because land is heterogeneous, some land will earn more rent than other land. While some land is ideally suited for economic activity, much land has little or no economic value (Wunderlich).

The value of land, according to economic theory, is the discounted value of the expected future income stream. Therefore, in order to explain land values we must explain expected rents and discount rates, because current land values are a function of expected rents and discount rates. To understand how policies and programs affect land values and the land market we must understand how they affect people's expectations of land earnings.

A common tendency, in policy analysis, has been to assume either a constant future discount rate or a constant expected rent or both. It has also been the conventional wisdom of many that current rents divided by current interest rates provided an adequate proxy as a measure of value. Some have assumed that historical farm income represented an adequate proxy of the expected return to land. Such assumptions misled a whole generation of analysts in the United States as they researched the cause of a non existent paradox which purported that land values were rising without the support of land earnings (Reinsel, 1973)

For the remainder of this paper we will be considering how policies and programs affect expected income and also the relationship of expected income and land values.

Policies Considered

It is convenient to consider policies in several broad groupings: development policies, distributive policies, allocative policies, fiscal or tax policies, finance policies, and growth or employment policy. Each of these affects land earnings and expectations concerning land earnings and therefore affects land values.

Distinction Among Policies and Programs

Policies are formulated because either society at large or, in non democratic societies, the ruling class believes it is necessary to define add to or alter the rules by which people interact on a social, political or economic basis. Policies are usually broad general statements about desired outcomes. For example, it has been the policy of the United States to raise the income of farmers, promote free trade among nations and conserve natural resources. No statement of method is evident or implied in such statements of policy.

On the other hand, programs provide the method to carry out a policy and it is the impacts of these programs that we usually refer to when we consider the impacts of policy. As examples in the U.S., the nonrecourse (price support) loan program, the target price/deficiency payment program, the acreage reduction program, and the farmer owned reserve program are all used to carry out the policy of supporting farm income. And, the law defines specific parameters for these programs. Income support programs have specific rules that determine how they function with respect to specific commodities and with regard to individual producers. Unless producers follow the rules, they are excluded from the program and do not receive the benefits of direct participation. Frequently, however, there are significant free-rider (non participant) benefits as one of the unintended consequences of the program. There are also significant costs that accrue to those who can not participate, such as the increased cost of feed to livestock producers.

Development Policy

Perhaps the most important factor affecting the land market, from the stand point of society, has been the development policy of the United States. In the early colonies and in the initial years of the new nation our society was primarily agrarian, dependent on the land for sustenance and for trade goods. But, the roots of the commercial/industrial society were present at the time of the revolution as the colonies sought the right to manufacture and export without taxation.

Throughout it's history the U.S. has had an abundance of productive land relative to it population. In the colonial period, land was given to early settlers to encourage settlement and development. Large land grants provided a source of revenue from the sale of tracts to freeholders, who were encouraged to develop farms and organize commerce. Land was developed by early pioneers as a means of gaining a subsistence living. This was subsistence agriculture not because they had too few resources to produce more than subsistence needs, but because there was no market in which to trade their surplus. As merchants and craftsmen arrived, a surplus was produced to trade for goods or skills which these new groups made available.

Expansion of agriculture to new land was promoted by the Homestead Act in 1862. Also, agricultural and commercial development was promoted by giving land to the railroads, as an incentive for them to extend tracks into undeveloped areas. The railroad subsidy brought value to land because it was now possible get the product of land to market. Railroad companies sold land to settlers and built towns, thus, developing a market for their services and the production from the land.

The settlement policy was continued into the 1900's and producers were encouraged to move into dry land areas with government subsidized irrigation projects that resulted in the growth of agriculture in the arid west. Expansion of such development projects continued into the 1950's.

The Federal highway program was part of the Department of Agriculture from 1893 until 1939 when the Bureau of Public Roads was created in the Department of Commerce and highway programs were transferred out of the Department of Agriculture. Highway development, subsidized by federal and state funds, created all weather roads which localized access, even more than the railroads, from the market town to the farm gate putting farmers in remote areas on a competitive position with those next to urban development. For many years the highway program accounted for more of U.S.D.A.'s budget than all other programs combined. For example, in 1919, $69 million was spent for highways and $49 million for all other programs of the Department.

In the 1930's, a major push was given to the development of the infrastructure of rural areas and to the value of rural land through the low interest rate loans made through the Rural Electric Administration to Rural Electric and Telephone Cooperatives (Allin). These cooperatives extended service beyond the heavily populated urban areas served by municipal or private companies to nearly every farm, ranch, rural home and small town in the country opening the door to the introduction of low cost energy consuming technology. In a span of 2 decades (1940 to 1960), dairy, poultry and swine production were transformed from small labor intensive herds and flocks to large energy intensive enterprises.

The institution of the Federal land banks in 1916 brought a stable supply of long term funds to the agricultural land market at terms that were competitive with those offered to commercial borrowers. This source of funding brought a measure of liquidity to the land market and shifted the demand for land by allowing more producers to participate in the market as owners rather than as tenants. Institution of the Production Credit Associations and the Bank for Cooperatives in the 1930's provided the funding for producers to take advantage of the technologies that were just beginning to emerge from the cooperative federal and state research program.

The U.S. Department of Agriculture had its origins in the development and transmission of new technology and for the first 50 years of its existence it continued to be primarily research, education and development oriented.

In the 1920's, a dramatic shift occurred in the markets for U.S. agricultural products which sharply changed the role of the Department of Agriculture. Export sales began to decline as Europe attempted to regain self-sufficiency after World War I. With the institution of tariff barriers, trade came to almost a complete stop. At the same time the shift in technology from draft animals to internal combustion engines brought about a decrease in demand for timothy hay and oats (primarily used for horse feed), releasing 70 to 80 million acres for production of other crops.

The resulting surplus production and farm depression, in the 1920's brought about active lobbying in Congress for programs that would raise incomes and stabilize prices at levels that approached the buying power of the non-farm sector (Wallace). By 1929, at the start of the non farm depression, the first attempts at distributive policies were introduced.

For a brief period in the 1930's the U.S. experimented with what could be called a positive adjustment policy. Under the Resettlement Administration actions were taken to move people from low income areas to non farm employment. For numerous reasons, most of them ideological, the concentrated effort to move people out of agriculture was abandoned and replaced with the Farm Security Administration (FSA) which had the primary objective of providing loans to tenants to purchase land. Later, the FSA became the Farmers Home Administration (FmHA) which was established to provide loans to marginal and low income low resource borrowers.

Although development policies were continued into the 1950's, in the form of increased irrigation development and the REA continued to provide low cost funds to bring electricity to rural areas, distributional policy was introduced in the 1930's bringing a relatively new form of subsidy that, in part, sought to offset the effects of over-expansion of the production base brought on by the development policy.

Distributive Policies

Distributive policies are those which alter the flow of revenue to an individual or group, thus changing their absolute and relative income and wealth positions.

In the 1920's, officials of the Department of Agriculture and members of farmer organizations began to understand the inelastic nature of the demand for agricultural products and sought to encourage supply control as a means of raising prices and increasing the income of farmers relative to the income of their urban counterparts. Attempts to alter the distribution of income between agriculture and the urban sector occurred in the 1920's when producers were urged to restrict production and to establish cooperative institutions to achieve supply control and to export commodities (Wallace). However, these programs were largely unsuccessful.

In the 1930's, programs were developed to alter the basic supply demand relationship in the market. Support was established for commodity prices by setting loan rates for nonrecourse (price support) loans, for commodities, at a fixed percentage of their per unit purchasing power in 1910-1914 (parity). In essence, the demand was expanded to absorb whatever quantity would be produced at the prevailing loan rate. Revenue to the sector increased because prices were above what would have been the market clearing price and stocks accumulated in government storage. To limit supply and offset the need for storage, acreage reduction programs were initiated. These reduced the need for storage but did not alter the enhanced income stream and, as earnings increased, land values stabilized and then rose.

The basic policy of the U.S. Government with respect to agriculture has been static since the 1930's. That is, it has been the purpose of agricultural legislation to raise farm income above the level that would be forthcoming in the market. However, there is a continuing debate among U.S. policy makers concerning the fundamental condition of the farm sector (Reinsel, 1985).

There are two conflicting sets of assumptions with respect to the function of agricultural markets. One group assumes that agriculture is competitive and adjustment to equilibrium prices and quantities without programs would be relatively quick and painless. This group attests to a received doctrine that if current programs were removed and excess stocks were eliminated the disequilibrium problem would be solved. From their perspective short run variability in prices is the problem and the role of government is to reduce risk and bring about stability. They rely on variability in yields to keep stocks from accumulating in government storage and the loan rate must be kept below the long run average price, offering protection against variability but not supporting income above long run levels.

The other group assumes that, in addition to variability from weather and other shocks, agriculture suffers from a large and chronic disequilibrium because of the heterogeneity of farm firms. The view of this group is that the adjustment toward equilibrium would be long and painful. This group sees the need for a continuing strong presence of government in agricultural markets to control production, shorten supplies and provide income transfers from tax payers and consumers to producers.

Since the 1930's, it has made little difference which view was held by the administration in power, because the short run condition has been a continuing surplus and the only politically acceptable option has been to provide for an income transfer. The differences among programs, since the 1930's, were not so much over whether the problems were chronic or temporary but over the magnitude of the income transfer and the source of funds for the transfer -- taxpayers or consumers. The historical record suggests that those who hold the belief that U.S. agriculture has a chronic surplus are close to the truth. During the last 60 years, the only periods of relative scarcity were during World War II and 1972 to 1975. The remaining years produced abundant stocks and/or idle acreage.

Intended and unintended effects of distributive programs.

The intended effect of farm programs has been to raise incomes of producers of specific commodities. For the most part, the programs have accomplished their objective. Numerous studies have shown that producers incomes are higher with programs in place than they would be in a free market (Reinsel,1986). In general the income enhancement effect has been larger than the cost of the direct subsidy because the demand for program commodities is inelastic. Thus, revenue rises as consumers pay more for a reduced quantity.

Unintended consequences of programs are the primary subject of discussion when we consider how policy has affected land markets and values. That is, U.S. commodity policy is intended to support farm income. A portion of the higher income is allocated to land as rent. And, as expected future rents increase because of the program, land values increase, because the expected future stream of rents is higher than it would have been in a free market. This process is frequently referred to as capitalization of program benefits (Reinsel,1972). Researchers have often inferred that benefits to producers are lost through capitalization (Schultz). In reality, the capitalization process normalizes returns. That is, earnings from program commodities are equilibrated with those of competitive uses. The programs create a windfall for those who hold land when the support policy is put in place. Those acquiring land after the policy is established pay the going market rate to acquire the rights to the expected income stream. Over time, shifts in policy have created both windfall gains and losses as the expected income stream changed.

A side affect of the programs, as they existed from the 1930's, was that they facilitated the depopulation of agriculture. Retiring farmers and those leaving the sector for non farm employment left with retirement or investment funds that were paid by those who acquired the assets of those leaving. Thus, the wealth created by the expected higher income stream became a means of restructuring the sector.

Under the 1977 and 1981 Acts high loan rates and rising target prices contributed to the expectation that incomes would be higher in the 1980's. Conversely, the rapid accumulation of stocks in 1982, the PIK program in 1983, the reduction in loan rates and freezing of target prices in 1984 and the further reduction of loan rates under the 1985 Act to $2.40 for the 1986 wheat crop and $2.25 for the 1987 crop have created expectations of further reductions in revenue and thus, in land values.

In the early 1970's, I authored a report with Ronald Krenz in which we attempted to measure the nominal value of program receipts that were available for capitalization and also estimated the the value of real estate that could be accounted for by capitalization of expected program benefits (Reinsel and Krenz). We concluded that, as of 1970, about 8 percent of the value of U.S. farmland was supported by expected program earnings. That estimate was outdated the year it was made because commodity prices began rising rapidly in 1972 and expectation concerning future earnings rose rapidly. During much of the 1970's, programs, except for disaster payments programs, were ineffective. In the early 1980's, expectations concerning commodity prices and land earnings underwent a reversal and land values began to decline. Land values, nationally, are down 30 percent from what they were in 1981. In Iowa, land values are off 60 percent. And, they are expected to decline further in 1986 (ERS 1986). This is the first decline in land values, lasting more than 1 year, since 1934.

Direct government costs of the major commodity programs will be higher in 1986 through 1988, than ever before, and contribute a higher proportion of real income. Yet, it is unlikely that land values will rise because the combination of government support and net income from production are likely to be at a record low in real terms. Current programs are only slowing the decapitalization (devaluation) of the sector.

To the extent that current income is higher than expected income, land values will continue to fall and will fall relative to current annual rents if annual rents are expected to decline in the future. That is, less will be paid for an expected declining income stream than the current return projected into the future would seem to warrant (Burt, Alston, Phipps). Conversely, if rents are expected to rise in the future, land prices will be higher than current rents would seem to warrant.

In a recent analysis of the impact of commodity programs on farm income, I determined that income subsidies were growing throughout the late 1970's and early 1980's, rising from near zero in 1975 to over $8.4 billion by 1982.

In a free market real incomes would have fallen from 1975 onward. If a subsidy of this magnitude was expected to remain constant into the future it would support about $280 billion dollars of asset value at historical rates of return. Removing the subsidy would result in a decline of nearly this magnitude in asset values (Reinsel). In 1986, projections of program costs show a subsidy of over $25 billion. Much of this will go to offset loses from production and fixed production expenses. Some amount of this is available for support of asset values.

Allocative Policies

Allocative policy partitions the rights to use land among specific purposes. As land was developed it carried with it the total bundle of rights assigned by government. Over time, as development progressed and society became more complex, the need was found to partition the rights to exploitation and to place limits on the transfer of rights. A growing population brought about competition for space. And, although the population became concentrated in cities and urban areas, the need for space did not diminish proportionally with the degree of concentration. The more complex the society the more compartmentalized its use of space — space for housing, space for transportation, space for industry and trade, space for agriculture, space for waste disposal, space for recreation, space for preservation of history.

Markets are assumed to allocate land to its highest and best economic use yet, allocative policies are developed to specify how land will be used. For example Congress has set aside land for forests, parks, and wilderness areas. National and state and local governments have designated wet land areas for wildlife preserves and established irrigation and drainage areas for farm production. Many states have establish agricultural use districts that permit preferential taxation at agricultural value rather than market value. Such policies are developed to limit the transfer of the externalities of private exploitation to the public sector or to society in general.

Although farming, mining, manufacturing, transportation, commerce and waste disposal are necessary elements of any economy, the people, acting through the state, have the right to regulate where such activity occurs. These limitations alter the bundle of rights associated with specific property and thus the revenue and value from that property. Special use district such as; drainage districts, irrigation districts, flood control, public water supply, and agricultural use districts all affect the quantity of land available for agricultural production and therefore alter land prices.

The 1985 Food Security Act contains provisions to remove up to 40 million acres of highly erodible land from production to limit soil erosion and conserve resources. A secondary objective is to reduce production of surplus commodities. Contracts on a bid basis are made for 10 years with land owners. Such a program competes in the rental market and increases and stabilizes the expected income stream, thus, raising the price of land.

Fiscal and Tax Policy

Tax policy is a statement of how society chooses to raise money for the purpose of providing public services and public goods. Tax programs, in addition to providing revenue, frequently address questions of equity and equality. Taxation is, thus, a basis for income transfer and equalization.

In the United States, tax programs have been used to direct investment into real estate and into agriculture, thus, increasing the demand for land and it's price. The farm income stream is directly impacted by Federal and state income taxes, inheritance and estate taxes and state and local real estate taxes. In principle, those with higher incomes pay taxes at higher rates. In practice, the opportunity to shelter income by investing in real property and in farm businesses creates substantial additional after tax returns to farmers (Edward I. Reinsel). For example, farmers and others with farm receipts have been allowed to reduce their taxes on non farm income by subtracting the amount of any farm losses from their non farm income before computing their federal taxes. Because farm losses may be paper losses, such as accelerated depreciation, the reduction in taxes can more than offset any actual loss. The process creates capital gains income rather than current income and capital gains income has, historically, been taxed at lower tax rates than ordinary income.

Tax programs such as investment credit and accelerated depreciation to encourage new capital investments, when applied to excess capacity industries such as agriculture, result in capacity expansions and greater excess capacity that, when supported by commodity programs inflates land prices.

Cash accounting for tax purposes permits the write-off of expenses in the year payment is made rather than in the year that the input purchased is used. Thus, advanced purchase of seed, fertilizer, and other inputs can be used to offset income in high income years thereby reducing taxes and raising net income.

The provisions of the 1986 tax reform Act, when they become effective, will sharply reduce the incentives to invest in agriculture. As a result, demand for farm land will likely be reduced and this will contribute to a further short term decline in land values.

Finance Policy

Credit or finance policy with respect to U.S. agriculture began in 1916 with the passage of The Federal Farm Loan Act and the establishment of the 12 district Federal land banks. The intent of the Act was to insure that agriculture had credit available to it at reasonable rates with such credit secured by mortgages on farm real estate. During the 1930's the Farm Credit Administration replaced the Federal Farm Loan Board and the local Production Credit Associations were authorized in 1933 to make short and intermediate term credit available to farmers on a reasonable basis.

Under the Resettlement Administration and later the Farm Security Administration loans were made to tenant farmers to acquire land. In 1946, the newly created Farmers Home Administration was authorized to make production and subsistence loans to farmers who could not get credit elsewhere. Tenant ownership loans were also continued under the Bankhead-Jones Act and a newly authorized program of insured farm mortgages. Following World War II much of the Farmers Home Administration Program was directed to returning veterans and to assist new farmers or farmers with few resources to begin or continue farming. During the past 30 years Rural Housing loans, Rural Industry Loans and Emergency Loans were added to the authority of the Farmers Home Administration.

The Farm Credit Act of 1971 dramatically altered the policy and programs of the Federal land banks. Prior to the Act the Federal land banks based their lending on "normal agricultural value" which projected current income capitalized at a 5 percent capitalization rate. Loans were made up to 70 percent of normal value. Thus, Federal land bank loans were seldom for more than 50 percent of the market price. This was a very conservative lending policy and it limited the number of potential buyers.

The 1971 Act changed the policy and the programs of the Federal land banks. Farms were now appraised at market value and loans could be made for up to 100 percent of the market price. In practice, 80 to 85 percent became the norm. As a result, a dramatic expansion in Federal land bank lending occurred. Their volume of loans outstanding rose from $6.7 billion in 1970 to over $48.0 billion in 1980, a 616 percent increase. Their share of the loan portfolio rose from 23 to 35 percent. At the margin, in a thin transfer market, such an expansion in loan funds can and did have a major impact on land prices. (Pongtanakorn and Tweeten)

Growth or Employment Policy

A long term policy of the U.S. Government has been to encourage economic growth for the total economy, that is, increased numbers of jobs that produce a higher level of goods and services. Implicit in this policy is a rate of inflation of 2 to 4 percent per year to stimulate economic expansion. With the rate of increase in the money supply geared to this level of price increase for reproducible goods, the nominal increase in land prices, other things equal, tends to be faster since the supply of land is fixed. Thus, the real price of land as measured by the consumer price index or the GNP deflator will tend to rise as a result of the general price level increase. A growth policy which raises the real incomes of a growing population will put increasing pressure on land prices as new consumers attempt to reallocate the existing stock of land among a growing number of market participants.

Concluding Comments

The impact of policy on land value is the result of the impact of programs on expected land earnings or rents. Development, distribution, allocation, taxation, finance and growth polices all hold implications for expected land rents. Land prices rise or fall because expectations concerning rents change as economic conditions and policies change.

The current decline in land values in the United States reflects the expectation that the return to land from farm production is likely to be lower in the future than producers and their lenders expected or realized in the 1970's. While nominal cash income for the sector is at a near record high level, real net income is at the lowest level since the 1930's. The net income to agriculture in 1984 and 1985 was concentrated on 200,000 to 300,000 farms that were highly profitable. Nearly half of all farms lost money on the basis of current operations in both years and many of these farms are in the process of selling off their assets and the prices at which the assets sell are falling.

In a global perspective, U.S. agricultural policy increased the rents attainable on land in our competitor countries by placing a floor under world prices for wheat, feed grains, soybeans, rice and other commodities. Thus, rent and land values have been increased in Canada, Australia, Argentina, Brazil, South Africa and many other countries. As prices fall under the 1985 Act, producers in these countries are likely to experience declining earnings and rents and land values.

In the outline for this workshop it was requested that we consider the distinction between land as a factor of production and land as a asset. From my viewpoint there is no difference. As a factor of production land earns rent. Because land is expected to earn a stream of rent, it has value. Because land has value, it can be use as a store of wealth. But, it will only retain its value as a store of wealth if it is expected to earn rent in the future equal to or greater than it's current rent.

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